

A Digital Trade Policy for Latin America and the Caribbean

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A Digital Trade Policy for Latin America and the Caribbean

Joshua P. Meltzer¹

Abstract

This report outlines a range of reforms needed to develop a digital economy and to take advantage of digital trade opportunities. Many of the recommended reforms are domestic in nature, such as providing consumer protection for online commerce, having in place appropriate IP protections and competition rules. Others, such as ensuring robust protection of personal data online also require domestic reforms, but to be most effective should include international cooperation on how to protect personal information sent to other countries. In other areas, the report outlines the range of digital trade rules that are the basis for regulating digital trade.

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Key words: Digital trade; ecommerce; regulatory reforms; trade agreements

¹ Joshua P. Meltzer is a senior fellow in the Global Economy and Development program at the Brookings Institution and leads the Digital Economy and Trade Project. This publication was prepared for the Trade and Integration Network meeting of the Regional Policy Dialogue of the Inter-American Development Bank on October 31-November 1, 2017. The Inter-American Development Bank provided financial support to the Brookings Institution for this publication. Brookings recognizes that the value it provides is in its absolute commitment to quality, independence and impact. Activities supported by its donors reflect this commitment and the analysis and recommendations are not determined or influenced by any donation.

Executive summary

Economic growth opportunities in Latin America and the Caribbean (LAC) are challenging. In part, this reflects low productivity and underperformance when it comes to international trade.

The commodities boom did lead to some growth in the region's share of global trade. However, since the 2009 commodity bust, those countries exporting raw materials such as Brazil, Argentina, Colombia, and Chile have suffered significant terms of trade shocks. Moreover, participation in international trade remains below expectations. The region accounts for 8.2 percent of economic activity worldwide, yet only 5.1 percent of global exports.

The region is also not well-integrated into global value chains (GVCs).

The globalization of the internet and cross-border data flows can improve productivity and provide new opportunities for firms to engage in the global economy.

The LAC region is already developing a vibrant digital business scene. The challenge and opportunity for the region is to expand the opportunity these digital technologies provide. To do this, it will require domestic reforms and developing a digital trade agenda.

In this regard there are four key ways that the internet and global data flows are transforming international trade:

- Businesses can use the internet (i.e., digital platforms) to export. This is a particular opportunity for small and medium-sized enterprises (SME) that can use these platforms and the comprehensive set of ancillary services they provide, such as online payments, to reach consumers globally.
- Services can be increasingly traded online, particularly information technology (IT), professional, financial, and education services. New digital services such as cloud computing have also been developed and are becoming crucial business inputs.
- Data collection and analysis is allowing new services (often also provided online) to add value to goods exports. This is also transforming goods trade into digital services exports.
- Global data flows underpin GVCs, creating new opportunities for participation.

Table 1 shows a list of the key trade reforms that are needed in order to create opportunities for business in LAC to participate in each of the four transformations in international trade caused by the internet and cross-border data flows.²

The World Trade Organization (WTO) rules provide some support for digital trade, but they are limited. The WTO agreements were finalized during the Uruguay Round in the early 1990s—before the internet existed—and therefore failed to directly address digital trade issues. Moreover, since the formation of the WTO in 1995, WTO members have not taken up the challenge of designing new rules for digital trade. Yet, plurilateral agreements such as the WTO Trade Facilitation Agreement and WTO Information Technology Agreement II are relevant. Moreover, constructive WTO Appellate Body decisions have given the WTO Generate Agreement on Trade in Services (GATS) new life when it comes to digital trade.

² For a comprehensive list of digital trade policy recommendations for LAC, see Section 5.

Table 1. Summary of trade reforms

	Cross-border ecommerce	Digital services	Digital services value added in goods exports	Global value chains
Allow cross-border data flows	✓	✓	✓	✓
Ensure non-discrimination	✓	✓	✓	✓
Avoid data localization	✓	✓	✓	
Expand market access for services	✓	✓	✓	✓
Recognize digital signatures	✓	✓	✓	✓
Reduce tariffs	✓	✓	✓	✓
Ensure effective IP protection	✓		✓	✓
Implement a third-party intermediary liability regime	✓	✓		
Join the WTO ITA	✓	✓	✓	✓
Join the WTO TFA	✓		✓	✓
Agree a common <i>de minimis</i> customs duty	✓			
No customs duties on electronic transmissions	✓	✓	✓	✓
Ensure consumer protection	✓	✓		
Enable digital payments	✓	✓		✓
Have an effective competition policy	✓	✓		
Protect privacy	✓	✓	✓	✓
Increase regulatory certainty	✓	✓		
Improve education and skills training	✓	✓	✓	✓
Ensure a stable investment environment	✓	✓		
Expand internet access	✓	✓	✓	✓
Reduce the cost of internet services	✓	✓	✓	✓
Expand cooperation on cybersecurity	✓	✓	✓	✓

Moreover, at the WTO ministerial meeting in Argentina in December 2017, 49 WTO members (including from LAC, Argentina, Brazil, Chile, Colombia, Costa Rica, Guatemala, Panama, Paraguay, Peru and Uruguay) issued a Joint Statement on Electronic Commerce, which included agreement to “initiate exploratory work together towards future WTO negotiations on trade-related aspects of electronic commerce.”³ Discussions have started amongst this group but it is too early to assess its level of ambition and possibility for success.

In many respects, regional and bilateral trade agreements have been the focus of efforts to develop new digital trade rules. The recently signed Comprehensive and Progressive Trans-Pacific Partnership Agreement (CPTPP), which includes Mexico, Chile, and Peru, includes the most robust digital trade rules yet. The U.S. Canada and Mexico have also agreed comprehensive new digital trade rules as part of the NAFTA renegotiation. These new NAFTA commitments are based on the CPTPP digital trade chapter but go further in some areas, such as including financial services within the scope of the NAFTA digital trade chapter.

Digital trade rules are also being discussed in the Regional Comprehensive Economic Partnership. Digital trade rules were also part of the Trade in Services Agreement (TiSA) negotiations (which included Mexico, Chile, Colombia, Peru, Panama and Costa Rica), as well as the U.S.-EU Transatlantic Trade and Investment Partnership negotiations, though both these negotiations are currently on hold.⁴

While various countries in LAC have demonstrated a commitment to expanding digital trade opportunities, there is no common regional approach to digital trade rules that could become a basis for expanding digital trade within the region. To maximize the potential of the internet and data to expand international trade, the LAC region needs a digital trade policy and complementary domestic reforms.

³ Joint Statement on Electronic Commerce, WTO/MIN(17) 60.

⁴ *The Regional Comprehensive Economic partnership negotiations involve the ten ASEAN countries plus China, Japan, South Korea, India, Australia, and New Zealand. The Trade in Service Agreement negotiations involve 23 parties: Australia, Canada, Chile, Chinese Taipei, Colombia, Costa Rica, European Union (representing its 28 Member States), Hong Kong, Iceland, Israel, Japan, Liechtenstein, Mauritius, Mexico, New Zealand, Norway, Pakistan, Panama, Peru, Republic of Korea, Switzerland, Turkey, and the United States.*

Introduction

The prospects for growth in Latin America and the Caribbean (LAC) are challenging. In part, this reflects low productivity growth and underperformance when it comes to engagement in international trade.

One of the key developments that can improve productivity and provide new opportunities for firms to engage in the global economy is the globalization of the internet and cross-border data flows.

The global internet and the ability to move data freely across borders increasingly underpin a growing range of digital economic and trade activities. Increasingly, economic growth and trade is being driven by using and extracting value from data. In fact, one publication referred to data as the new oil.⁵ The key point being that, like oil, data now supports an expanding range of economic activity and international trade.

The LAC region is developing a vibrant digital business scene. This includes large ecommerce providers such as *Mercado Libre* and *Grupo Netshoes*, which are expanding globally. Entrepreneurs across the region are using the internet and global data flows to develop new business models. This includes the Colombian company *PagasOnline*, which provides digital payment solutions, and the Chilean company *AlóProfe*, which provides online tutoring to middle and high school students.

In addition, the impact of the internet and data is economy wide, including in traditionally non-IT sectors such as manufacturing, mining, and agriculture. The challenge and opportunity for LAC is to expand the opportunity these digital technologies provide. This will require domestic reforms and developing a digital trade agenda.

In fact, international trade is being transformed by the globalization of the internet and cross-border data flows. An example is additive manufacturing, which has the potential to transform trade in goods into trade in a design. Another example is cloud computing, which is transforming trade in IT products into a computer service.

The globalization of the internet and cross-border data flows are also transforming trade by enabling small and medium-enterprises (SMEs) to participate in the global economy in ways that were not previously possible. Internet platforms such as *Mercado Libre* and *Traetelo* provide businesses with access to customers globally. Combined with online financial payments options and access to delivery services, such platforms allow for increasingly seamless ecommerce experiences across borders. In addition, new data driven services such as cloud computing and big data analytics are giving businesses access to on-demand computing power and enabling business to better understand their operating environment and manage global supply chains.

Realizing the opportunities of digital trade requires governments to develop domestic and international digital trade agendas that includes domestic reforms. The international agenda should facilitate access to use of data globally, strengthen trust in digital trade, and address more traditional trade barriers to goods and services. The domestic agenda should ensure that regulations in areas such as intellectual property (IP), privacy, and competition policy support these digital trade opportunities.

Section 1 of this paper looks more closely at some of the key digital technologies that rely on the global internet, cross-border data flows, and how they can increase productivity and competitiveness. Section 2 discusses how the internet and data are transforming international trade. Section 3 and 4 analyzes the

⁵ See <https://www.economist.com/news/leaders/21721656-data-economy-demands-new-approach-antitrust-rules-worlds-most-valuable-resource>

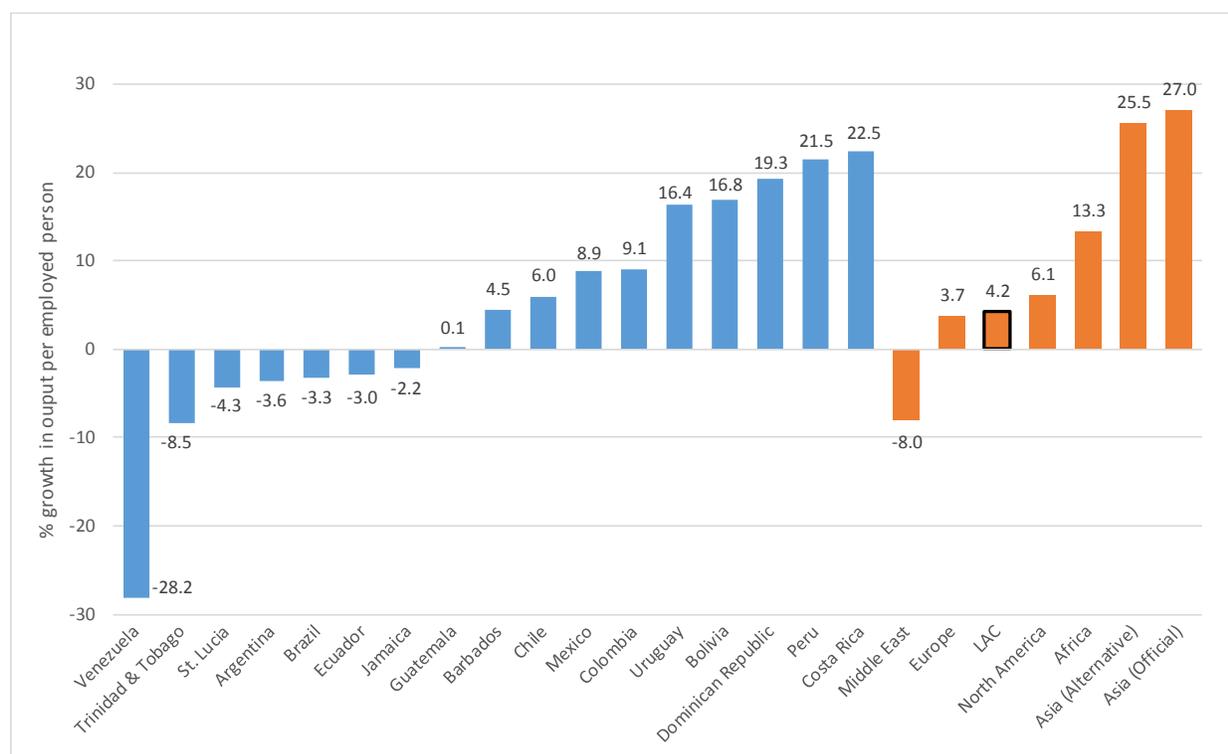
relevance of WTO rules to digital trade and the development of digital trade rules in free trade agreements. Section 6 outlines what should constitute a digital trade policy for LAC.

1. The growth in digital economies

As Paul Krugman once said, “productivity isn’t everything but in the long run it is almost everything.”⁶

Unfortunately, LAC productivity growth has been subpar, barely keeping pace with advanced economies and growing significantly slower than other developing and emerging economies, as illustrated in Figure 1.

Figure 1. Labor productivity, 2010-2017



Source: The Conference Board

Over 80 percent of growth in LAC over the past 15 years came from increasing labor inputs, instead of rising productivity.⁷ These rates of growth of labor supply are expected to decline. As a result, McKinsey Global Institute estimates that, without a change in productivity growth, GDP growth in Latin America will drop by 40 percent over the next fifteen years, compared to the previous fifteen.⁸

The digitization of economies and trade should improve efficiency and increase productivity.⁹ Indeed, much of the strong productivity growth in the U.S. in the mid-1990s through the mid-2000s is attributed to strong

⁶ Paul Krugman, “The Age of Diminished Expectations: U.S. Economic Policy in the 1990s” (Cambridge, MA: MIT Press, 1997), p. 11.

⁷ Cadena A (2017), “Where Will Latin America’s Growth Come From?” McKinsey Global Institute, April 2017.

⁸ Cadena A (2017), “Where Will Latin America’s Growth Come From?” McKinsey Global Institute, April 2017, p. 6.

⁹ World Bank, 2016, “World Bank Development Report 2016: Digital Dividends”, Overview booklet. World Bank, Washington D.C; Bernard, Andrew B., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. 2007. “Firms in International Trade.” *Journal of Economic Perspectives*, American Economic Association 21(3): 105-130.

investment in information and communications technology (ICT).¹⁰ Fast forward 20 years and the opportunities to grow productivity are digital in nature. A United States International Trade Commission (USITC) report found that, in 2012, the effect of the internet in enhancing productivity and lowering international trade costs was an increase in U.S. real GDP by 3.4-4.5 percent, and an increase in real wages of 4.5-5.0 percent.¹¹

Despite these robust productivity gains for the U.S. from use of digital technologies, it remains the case that official productivity statistics show that growth in the U.S. and globally remains relatively low. This raises questions about the extent to which the internet and data flows have yet to, or will be able to, increase productivity.¹² One view is that the productivity numbers understate the impact of the internet and data on productivity as they fail to measure the benefits from free digital services, such as email and communications.¹³ Others attribute the absence of expected productivity growth to a delay between the emergence of new digital technologies and their effective use by business.¹⁴ There is even growing divergence in productivity growth amongst firms.

What is clear is that innovation is a key driver of productivity growth. The following analysis will provide some sense of how the digitization of economies and of international trade has the potential to drive a new wave of productivity-enhancing innovation.

As noted, the importance of data and the global internet in driving commercial and international trade opportunities is not an opportunity limited to the information technology (IT) sector. Data and the internet are being used in increasingly intensive and creative ways in industries such as manufacturing, mining, and agriculture. Such digitally intensive industries include content industries, communications, finance and insurance, retail, health care, education, and manufacturing.¹⁵

In the finance industry, the transfer of data across borders is necessary to complete credit card transactions, make money transfers, and offer credit.¹⁶ The insurance industry collects data globally to better assess risk and thereby offer more cost-effective and targeted insurance services. And of course, mobile telecommunications companies collect data including geolocation data in order to provide the service.¹⁷

For example, *Prestadero* and *Kubo Financiero* in Mexico and *Cumplo* in Chile have established peer-to-peer lending for SMEs, giving companies access to credit in many LAC countries. Meanwhile, *Crowdfunder.mx*, a Mexico-based crowdfunding business, has partnered with U.S.-based *Crowdfunder* to offer crowdfunding opportunities to Mexican startups.

The significance of data for manufacturing was underscored in a May 2017 speech by Jeff Immelt, CEO of General Electric. Immelt observed that GE's competitive advantage is derived from digital productivity—not

¹⁰ Grossman, Gene M., and E. Helpman. 1991. *Innovation and Growth in the Global Economy*. Cambridge, MA: MIT Press; Baily, M.N. 2002. "The New Economy: Post Mortem or Second Wind? Distinguished Lecture on Economics in Government." *Journal of Economic Perspectives* 16(2): 3-22.

¹¹ United States International Trade Commission (USITC). 2014. "Digital Trade in the US and Global Economies Part 2." Pub. 4485, Investigation No. 332-540, August 2014.

¹² See Robert Gordon, "Is U.S. Economic Growth Over? Faltering Innovation Confronts the Six Headwinds," Working Paper (National Bureau of Economic Research, August 2012); Paul Romer, "Economic Growth", *Library of Economic and Liberty*, 2008.

¹³ Byrne D.M (2016), "Does the U.S. have a productivity slowdown or a measurement problem?" BPEA.

¹⁴ Brynjolfsson E, McAfee A. (2014), "The Second Machine Age", (W.W. Norton & Co.).

¹⁵ USITC Part 2 Digital Trade Report, Appendix F, p. 275.

¹⁶ Dr. Daniel Gozman et al (2015), *The Role of Big Data in Governance: A Regulatory and Legal Perspective of Analytics in Global Financial Services*, SWIFT Institute Working Paper No. 2014-009, 01 December 2015, p. 6.

¹⁷ Franceso Calabrese et al (2015), *Urban Sensing Using Mobile Phone Network Data: A Survey of Research*, *ACM Computing Surveys*, Vol. 47, No. 2, article 25, November 2014.

low wage manufacturing—and described GE’s future in manufacturing as being driven by use of new materials, additive techniques, and digitized plants.¹⁸

In the mining sector, data is becoming increasingly important. Caterpillar uses CAT MineStar to collect real-time data analytics on grading accuracy, load quantities, and quality of work to help customers minimize fuel costs and downtime and improve productivity.¹⁹ Sensors that monitor tire pressure and utilization rates allow Caterpillar to determine when parts need to be replaced, thereby reducing maintenance costs.

One example from Latin America’s mining sector is a collaboration between the Advanced Mining Technology Center and the University of Chile’s Department of Electrical Engineering. Together, they are developing unmanned ground vehicles using sensors and data in the cloud to undertake mining that is more accurate. The vehicles have sensors that provide data that is analyzed to determine chemical and subsurface movement, contributing to increased safety and efficiency of mining activities.

In the agricultural sector, sensors combined with data aggregation are being used to trace the origin of a product from the farm to the market, giving consumers information on the farmer, data, and time the product was harvested. *Raízen*, one of the largest producers of sugar and ethanol in Brazil, uses big data to better predict its production capacity up to a year in advance and uses the Internet of Things (IoT) to identify its planting lines to accurately map plant failures. All of this has enabled *Raízen* to better plan its agricultural operations and improve risk management throughout the value chain.

Big data

According to one estimate, 90 percent of the data in the world today was created in the past two years.²⁰ According to the OECD, big data has the potential to be a key driver of innovation, productivity growth, and economic competitiveness.²¹

Some of the economic and trade opportunities from big data stem from analyzing data to better understand the business environment. These capabilities allow firms to create new products and to respond to changes in usage patterns as they occur.²² Yet, developing large data sets often relies on the collection globally of discrete local data, which requires cross-border data flows.

Open online innovation platforms use big data to source ideas and determine their commercial viability before moving to physical production. For instance, BMW has created an “idea management system” to evaluate ideas submitted through its “virtual innovation agency.” This has reduced the time taken to identify high-potential ideas by 50 percent, and led the company to annually incorporate two to three ideas from this open innovation effort into new car models.²³

Data can also be used to improve health outcomes. For instance, collecting data on larger and global populations can reduce the time taken to bring new drugs to market, as defects can be quickly detected and benefits can be proved more readily. At the research end, AstraZeneca has established an Open Innovation platform that brings together academics and non-profits globally to participate in drug discovery.

¹⁸ <http://fortune.com/2016/05/20/ge-immelt-globalization/>

¹⁹ http://www.cat.com/en_US/support/operations/technology/cat-minestar/IncreasingProductivity.html

²⁰ IBM (2017), “10 Key Marketing Trends in 2017.”

²¹ OECD. 2015. *Data Driven Innovation: Big Data for Growth and Well-Being*. Paris: OECD Publishing.

²² Thomas H. Davenport et al (2012), “How ‘Big Data’ Is Different”, *MIT Sloan Management Review*, Vol. 52, No.1, Fall 2012, p. 44.

²³ Richard Dobbs et al (2011), *Big Data: The next frontier for innovation, competition, and productivity*, McKinsey Global Institute, June 2011, p. 80.

Big data could also be used to provide more targeted health care, enabling more “evidence-based” health interventions.²⁴

Cloud computing

Cloud-computing uses internet access and the ability to move data across borders to provide cheaper on-demand computing capacity that can be scaled and paid for as needed.²⁵ This includes basic cloud services such as email and software for giving users direct access to processing, storage, and other computing resources in the cloud. This reduces the need for upfront investment in IT and lowers the associated costs of maintaining often underutilized computing power.²⁶ In effect, cloud-computing turns a fixed IT cost into a variable operating cost.²⁷

By providing computing capacity on-demand, cloud computing enables businesses to avoid the often large upfront capital costs of IT investments. This is of particular value for SMEs and startups, who face higher capital costs.²⁸ For example, *Softtek*, a Mexico-based IT consulting company, is one of the largest private IT vendors in Latin America. Its value proposition is based on its utilization of cloud computing and big data to meet customers’ IT needs across Latin America and globally.

Cloud computing helps level the playing field by giving small firms access to the type of computational power that was previously available only to large corporations.

Cloud computing also underpins the capacity for people to work remotely, use laptops to access software, and store files. This can facilitate global collaboration, sharing, and innovation.

The Internet of things

The IoT refers to the ability of everyday objects to connect to the internet and to send and receive data.²⁹ The IoT also generates a large amount of data, which, once collected, has great value.³⁰ Again, maximizing the opportunities of the IoT requires the ability to collect data in one country, aggregate it with data from other countries, and to analyze it in a third country (another driver of big data).

The IoT has applications across industries. For example, businesses are already using sensors in factories to increase the efficiency of operations to track goods and manage distribution centers, reducing delivery times and overheads.³¹

For example, *Vestas*—a Danish wind turbine company—collects data from its globally-situated turbines and analyzes it in Denmark to better understand the impact of temperatures, wind speeds, and air pressure on turbine performance, and to make precise service and maintenance schedules. A system of global data

²⁴ Fabricio F. Costa, “Big data in biomedicine,” *Drug Discovery Today* 2014, 19(4), 433-440.

²⁵ Christopher S. Yoo (2015), “Cloud Computing: Architectural and Policy Implications”, *Institute for Law & Economics University of Pennsylvania Law School Research Paper No. 11-15*, p 5-6.

²⁶ Federico Etro (2009), “The economic impact of cloud computing on business creation, employment and output in Europe”, *Review of Business and Economics*, 2009: 54:2, 179-208.

²⁷ Federico Etro (2009), “The economic impact of cloud computing on business creation, employment and output in Europe”, *Review of Business and Economics*, 2009: 54:2, 179-208.

²⁸ OICU-IPSCO 2015, “SME Financing Through Capital Markets”, *The Growth and Emerging Markets Committee of the International Organization of Securities Commissions*, July 2015.

²⁹ U.S. Federal Trade Commission Staff Report (2015), “Internet of things, Privacy and Security in a Connected World.”

³⁰ Tsai, Chun-Wei et al. 2014. “Data Mining for Internet of Things: A Survey.” *IEEE Communications Surveys & Tutorials* 16(1).

³¹ Thomas H. Davenport et al (2012), “How ‘Big Data’ Is Different”, *MIT Sloan Management Review*, Vol. 52, No.1, Fall 2012, p. 44.

also allows Vestas to manage its global supply chains, including by alerting warehouses of needed parts that can then be shipped to the turbines in need of repair.

Sensors will also contribute to improved health outcomes. For instance, people wearing sensors will transmit a steady stream of data on vital signs that identify health problems earlier and allow targeted responses. This could include using sensors to communicate immediately with hospitals in the case of health emergencies.

The IoT is also giving businesses the ability to better understand customer needs and to improve the value of their products. For example, French insurer AXA's smart home hub uses the IoT to give households real-time protection against burglars, fires, floods, and gas leaks.

These examples highlight the range of innovation that is affecting how business produce and changing what gets consumed. In addition, artificial intelligence, robotics, and driverless cars are becoming a reality and will further disrupt economies and create new opportunities for growth and trade.

2. Digital trade

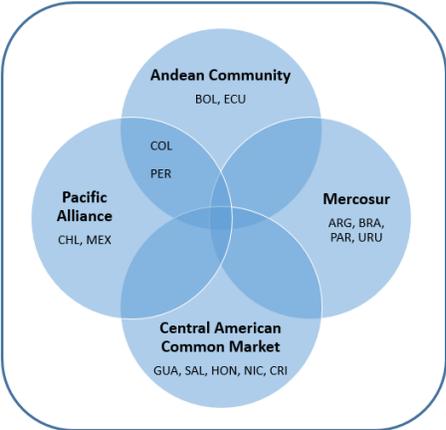
Overview of the LAC region's international trade integration

The LAC region's share of global trade increased since 2000 because of the commodity boom. However, since the 2009 commodity bust, those countries exporting raw materials such as Brazil, Argentina, Colombia, and Chile have suffered significant terms of trade shocks.

While exports rose since then, participation in international trade remains below expectations. For instance, the region accounts for 8.2 percent of economic activity worldwide, yet only 5.1 percent of global exports. In terms of trade openness—total exports to GDP—this represented 44 percent of GDP, below other emerging market economies.

Intra-regional trade is far from dynamic in part because of competing trade blocs instead of a common set of trade rules (Figure 2).

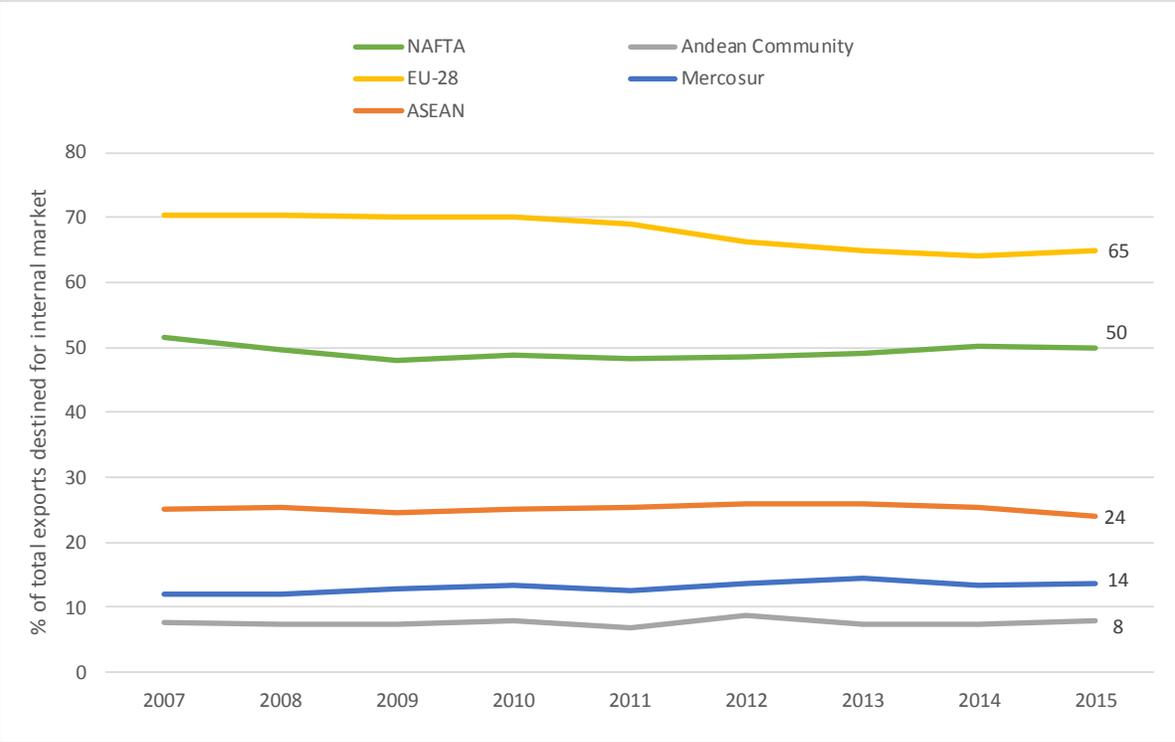
Figure 2. Intra-regional trade in Latin America and the Caribbean



Source: Author's own elaboration

Figure 3 shows intra-regional trade for LAC, with a focus on the Andean Community and Mercosur as compared to other integrated regions. These blocs have not succeeded in integrating when compared to NAFTA, the European Union, and ASEAN.

Figure 3. Intra-regional trade



Source: World Bank WITS, WTO, and Eurostat

Compared to North America and Asia, Latin America is also not well-integrated into GVCs. Participation in GVCs increases GDP and provides important spillovers in terms of access to technology and learning.³³

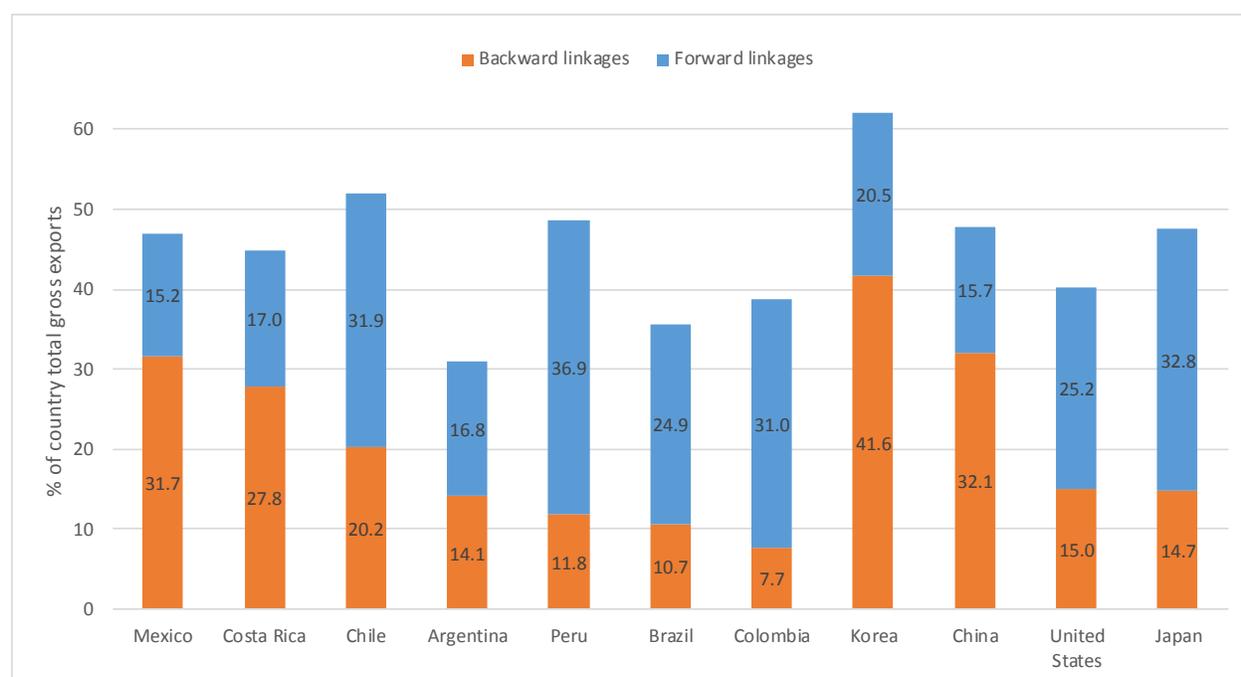
Figure 4 shows the share of countries exports that have forward linkages into GVC by being incorporated as inputs into the production of other products and shares of exports that have incorporated foreign inputs into domestic production – the backward linkages.

Commodity exporters such as Brazil, Chile, Columbia, and Peru have significant forward linkages as their exports are used in third countries to add value. However, backward linkages are limited in these countries: 11 percent of Brazil and 8 percent of Colombia’s exports contain foreign value added, compared to 42 percent for Korea and 32 percent for China. Mexico is unique, given its integration in North America supply chains which afford it significant backward linkages.

³² Venezuela has been suspended from Mercosur since December 2016.

³³ Cheng, K et al (2015), *Reaping the Benefits from Global Value Chains,* IMF Working Paper, September 2015.

Figure 4. Integration of LAC in global value chains, 2011



Source: OECD TiVA Database

The above illustrates the relatively low level of LAC international trade integration overall. The participation by LAC in digital trade is discussed below.

What is digital trade?

While no specific definition of digital trade exists, the WTO Ecommerce Work Program states that, “electronic commerce” refers to the production, distribution, marketing, sale, or delivery of goods and services by electronic means. Digital trade includes the use of the internet to search, purchase, sell, and deliver a good or service across borders and includes how internet access and cross-border data flows enable digital trade.³⁴

The USITC developed a broader definition of digital trade as “U.S. domestic commerce and international trade in which the internet and internet-based technologies play a particularly significant role in ordering, producing, or delivering products and services.”³⁵

The E15 Digital Trade Policy paper recognized that digital trade includes as a fundamental characteristic the use of the internet to search, purchase, sell, and delivery a good or service across borders. In addition, the paper notes that a more expansive lens could also speak to how internet access and cross-border data flows enable digital trade.³⁶

³⁴ WTO Work Programme on Ecommerce, Adopted by the General Council on 25th September 1998, WT/L/274, 30th September 1998.

³⁵ USITC 2014, “Digital Trade in the U.S. and Global Economies, Part 2”, Pub. No 4485, August 2014, p. 29.

³⁶ Joshua P. Meltzer (2014), “Maximizing the Opportunities of the Internet for International Trade”, E15 Policy Options Paper (World Economic Forum, ICTSD).

Thinking about digital trade broadly makes sense, particularly where cross-border data directly affect online trade as well a whole range of activities that can support and lead to international trade and investment.

Measuring digital trade

Assessing the economic impact of restrictions on data flows on trade and investment has to contend with limits in the available trade data. Official statistics agencies do not collect data on whether a service is provided over the internet and relies on global data flows, or whether it was provided in person. Moreover, the broad economic impacts of data on economic growth and trade makes it difficult to disentangle the impacts of digital technologies.

Digital transformations in international trade

According to the McKinsey Global Institute, “virtually every type of cross-border transaction now has a digital component.”³⁷ The opportunities and impact of the global internet and data on international trade can provide a pathway for the LAC region to expand international trade. This will require a digital trade policy built around four key transformative principles:

- Businesses can use the internet (i.e., digital platforms) to export. This is a particular opportunity for SMEs that can use these platforms and the comprehensive set of ancillary services they provide, such as online payments, to reach consumers globally.
- Services can be increasingly traded online, particularly IT, professional, financial, and education services. New digital services such as cloud computing have also been developed and are becoming crucial business inputs.
- Data collection and analysis is allowing new services (often also provided online) to add value to goods exports. This is also transforming goods trade into services exports.
- Global data flows underpin GVCs, creating new opportunities for participation.

International ecommerce opportunities

The capacity for firms to use the internet to engage in ecommerce relies on access to and use of data. The basic ecommerce interaction that involves the purchase, payment, and possible delivery online requires the provision of data in the form of name, address, and financial details. Successful ecommerce strategies also use interactive websites with social media that leverage data collected from consumers to inform designs and better target services.

The expansion of the internet globally means that internet platforms such as eBay and *Mercado Libre* can reach overseas customers and thereby engage in digital trade. According to the United Nations Commission on Trade and Development (UNCTAD), the global electronic commerce market amounted to a total of 22 trillion dollars in 2016.³⁸

A related development is the use of the internet to interact with customers and to engage third parties in the co-design of products. For instance, United Kingdom online grocer *Ocado* elicits consumer feedback to better design products.³⁹

³⁷ McKinsey (2016), “Digital Globalization: The New Era of Global Flows”.

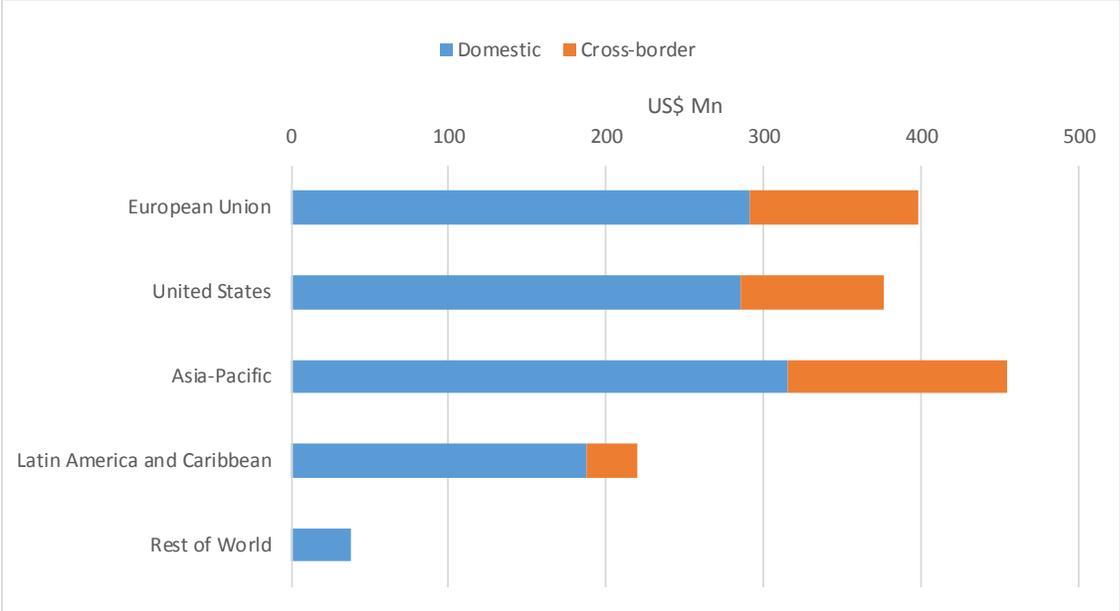
³⁸ UNCTAD, ‘\$22 Trillion E-Commerce Opportunity for Developing Countries’ (19 July 2016)

<http://unctad.org/es/paginas/newsdetails.aspx?OriginalVersionID=1281&Sitemap_x0020_Taxonomy=Information%20and%20Communication%20Technologies>.

³⁹ Jacques Bughin et al (2016), *Digital Europe: Pushing the Frontier, Capturing the Benefits*, McKinsey Global Institute, June 2016.

As noted, LAC has some ecommerce leaders. However, the region lags the world in terms of its domestic and international ecommerce (Figure 4). Brazil remains the largest retail ecommerce market in the region. Many consumers there are comfortable using credit cards and digital options for payments. Retail ecommerce sales will make up 3 percent of Brazil’s total retail sales in 2017, slightly ahead of the regional average of 2 percent. These numbers however trail behind the U.S., Europe, and Asia. Constrains on ecommerce in LAC include the low quality and high cost of internet services, the limited availability of international electronic payment options, and the monetary and time costs imposed by transportation and customs procedures on high-volume and low-value items. Regulatory differences and other trade barriers amongst countries in the region, such as investment restrictions and the absence of common privacy or consumer protection laws also increase the cost of cross-border ecommerce.

Figure 4. Domestic and cross border ecommerce marketplace, 2017



Source: Forrester and ChannelAdvisor

Digital services trade

The globalization of the internet is an opportunity to expand services trade. Services can be searched for, purchased, and consumed online. Think of music, books, movies, and increasingly professional services, education, communication, and financial services.

A good way to grasp the importance of cross-border data flows for services trade is to determine which services are “digitally-deliverable”—services that could be provided online. The U.S. Bureau of Economic Analysis identified the following services sectors as digitally-deliverable—business and professional services, financial and insurance services, telecommunications, and intellectual property rights.⁴⁰

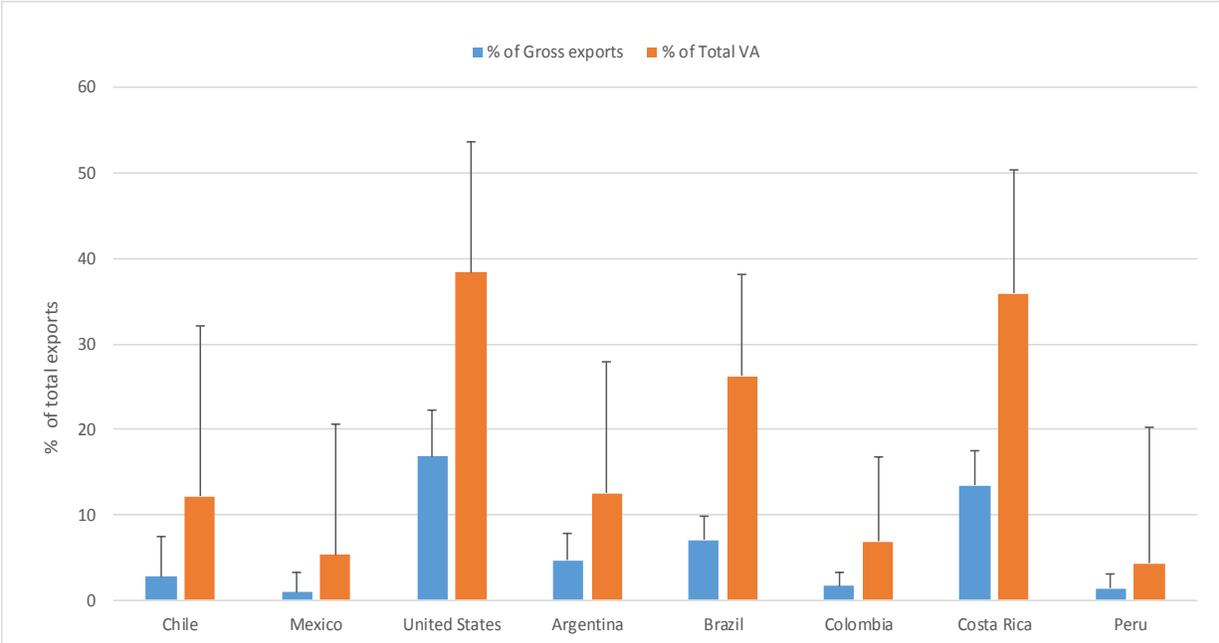
A related development in digital trade is the transformation of goods trade into digital services trade. For instance, music, books, movies, and software once traded as goods are now downloaded, which means

⁴⁰ Jessica R. Nicholson and Ryan Noonan (2014), “Digital Economy and Cross-Border Trade: The Value of Digitally-Deliverable Services”, ESA Issue Brief # 01-14.

they have become digital services exports. This is shifting the focus of economic growth onto services sectors, an emerging area that is generating value added.

Figure 5 calculates digitally-deliverable services trade for select countries in Latin America and includes the U.S. as a point of comparison. The figure provides a range of what could be digitally-deliverable based on conservative and more optimistic assessments of the services that could be traded online. Most countries digitally-deliverable services are over 20 percent of total services exports and for Brazil, it is close to 40 percent, around 33 percent for Chile and just under 30 percent for Argentina. This compares to the U.S., where 56 percent of U.S. services exports are digitally-deliverable.⁴¹

Figure 5. Digitally-deliverable exports, 2011



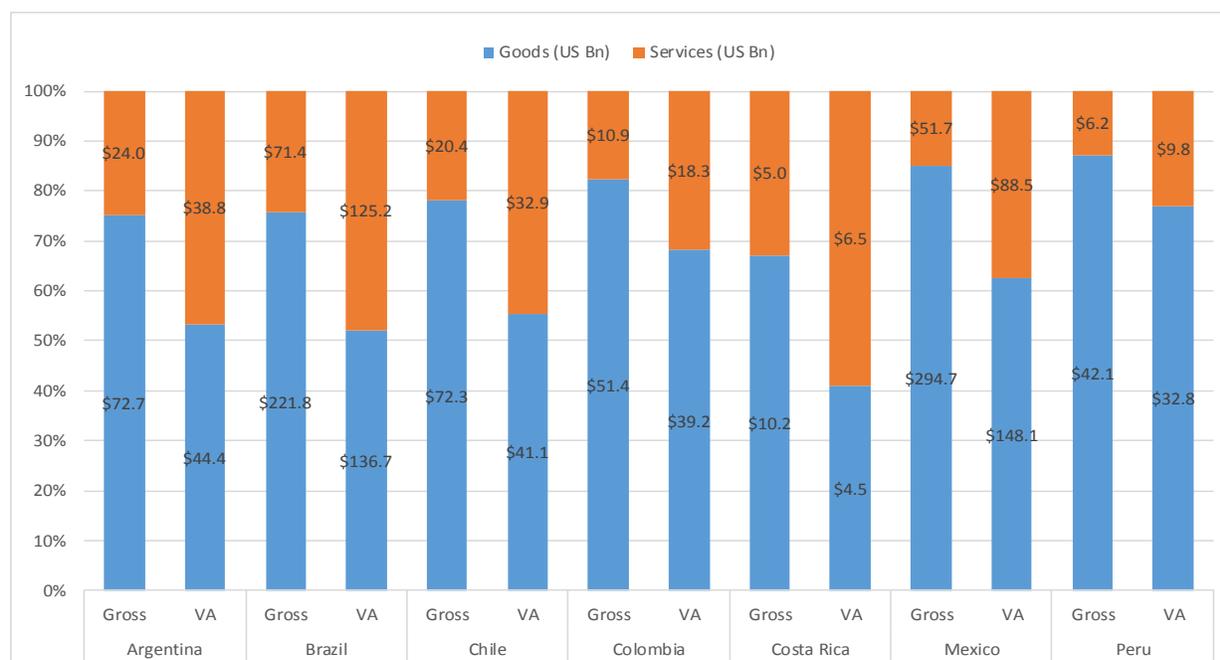
Source: Own calculations, OECD TiVA Database

Services value added of goods production

Services are an increasingly valuable input into the production of goods. Think of professional service, financial services, advertising, sales, and digital services such as cloud computing, software and telecommunications. In addition, the collection of data from sensors in goods is allowing businesses to provide services that add significant value to goods exports. Figure 6 underscores the importance of services exports for the region once the services’ valued-added in goods exports is taken into account. For instance, services exports for Brazil and Argentina increase from around 25 percent of exports to close to half.

⁴¹ <http://esa.doc.gov/economic-briefings/digitally-deliverable-services-remain-important-component-us-trade>

Figure 6. Service valued exports, 2011



Source: OECD TiVA Database, UN Comtrade

And as outlined above, the opportunity for services to add value to traditional goods exports is being realized across sectors—in mining, agriculture, and manufacturing.

Global value chains

More than 50 percent of trade in goods and over 70 percent of trade in services is in intermediate goods.⁴² Global internet access and cross-border data flows enable GVCs by reducing communication costs—email, Skype, Google Hangouts—enabling real-time tracking of goods as they move across borders and through production processes using the IoT. This also allows for just-in-time manufacturing, minimizing the need for inventory, and reducing overheads. The digitization of GVCs also creates opportunities for businesses to become part of the chain by providing a discrete service online.

The opportunities of data for SME participation in the global economy

The global internet and cross-border data flows provide a particular opportunity for SMEs to engage in the international economy.⁴³ This should be an especially important goal for Latin America, where SMEs account for 70 percent of employment yet generate only 30 percent of GDP—half the average among OECD member countries.⁴⁴ Moreover, there are particularly large productivity gaps between large and small enterprises in the region, and the share of SMEs exporting is only half that of Eastern Europe and one-third lower than in East Asia.⁴⁵ This points to challenges as well as significant opportunities for SMEs to drive greater productivity, growth, and exports.

⁴² OECD 2012, “Mapping Global Value Chains”, TAD/TC/WP/RD(2012)9.

⁴³ Joshua Meltzer, “Supporting the Internet as a Platform for International Trade: Opportunities for Small and Medium-Sized Enterprises and Developing Countries”, Brookings Working Paper 69, February 2014.

⁴⁴ Mexico is a member of the OECD.

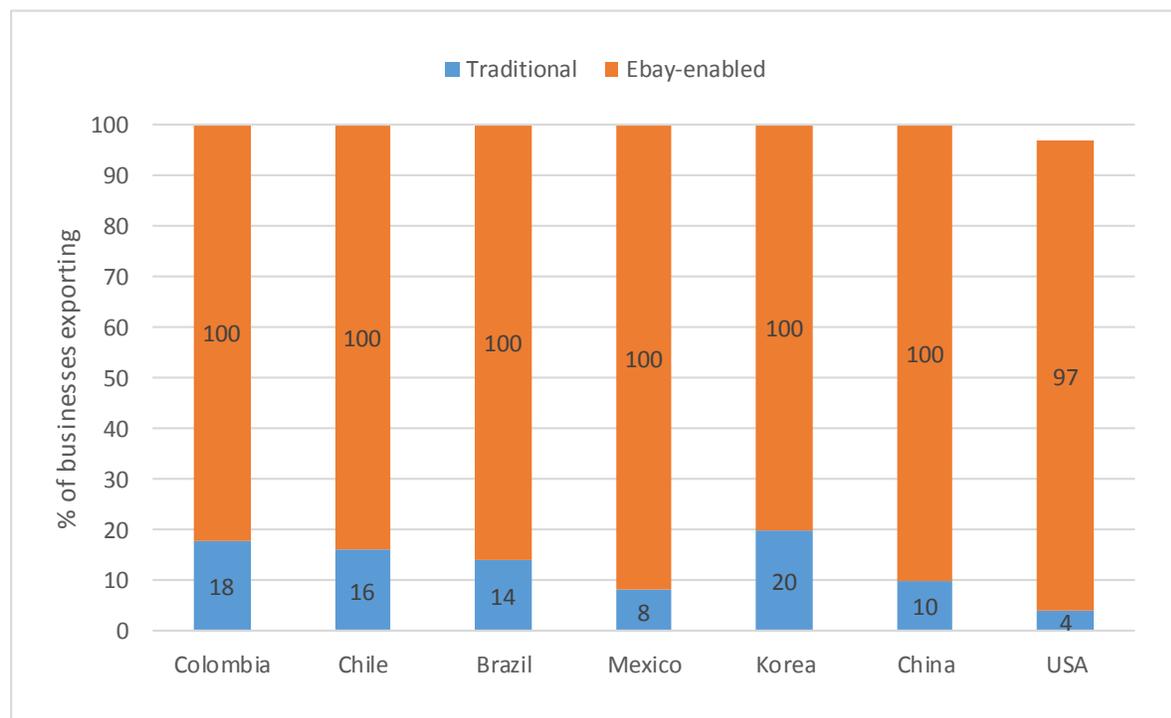
⁴⁵ OECD 2016. Promoting Productivity For Inclusive Growth in Latin America” (Paris, OECD).

The internet and global data flows enable SME participation in international trade in several ways. First, having a website gives SMEs an instant international presence without having to establish a physical presence overseas—often not an economic option for SMEs. Second, access to cost effective data-based services, including online advertising and communication services, cloud computing, and access to critical knowledge and information on foreign markets facilitate SMEs in important ways.⁴⁶ In fact, challenges getting access to information on foreign markets and regulations is a known impediment to SMEs engaging in international trade.⁴⁷

SMEs also use internet services, such as YouTube, and social networking sites, such as Facebook, to advertise and expand customer bases. For example, Brazil is only second to the U.S. in terms of YouTube users, Mexico is 9th, and Argentina 11th globally.⁴⁸

Perhaps the most immediate trade opportunity for SMEs is using internet platforms such as *eBay*, *Mercado Libre*, or *Alibaba*. For instance, SMEs using eBay to sell goods almost immediately become global players, as highlighted in Figure 7. Take Brazil, where only 14 percent of firms in retail are engaged in international trade, while 100 percent of Brazilian firms on eBay have cross-border sales, and these are not only within LAC.⁴⁹

Figure 7. Share of SMEs that export products and services, 2016



Source: eBay Small Online Business Growth Report

⁴⁶ OECD. 2009. "Top Barriers and Drivers to SME Internationalization." Report by the OECD Working Party on SME and Entrepreneurship. Paris: OECD Publishing.

⁴⁷ Schoonjans, Bilitis, Van Cauwenberge, Philippe and Heidi Vander Bauwhede et al. 2013. Formal Business Networking and SME Growth. *Small Business Economics*. 41.

⁴⁸ Statista, YouTube Statistics and Facts, <https://www.statista.com/topics/2019/youtube/>

⁴⁹ eBay (2015), "Empowering People and Creating Opportunity in the Digital Single Market" An eBay report on Europe's potential, October 2015.

3. The relevance of the WTO for digital trade

The digitization of international trade presents a range of challenges and opportunities for international trade law. The WTO agreements, which were finalized during the Uruguay Round in the early 1990s before the internet existed, fail to directly address digital trade issues. Moreover, since the formation of the WTO in 1995, WTO members have not taken up the challenge of designing new rules for digital trade. Yet, plurilateral agreements such as the Trade Facilitation Agreement and Information Technology Agreement II are relevant. Moreover, constructive WTO Appellate Body decisions have given some WTO GATS new life when it comes to digital trade.

The following outlines the key WTO areas as they apply to digital trade:

- WTO GATS commitments apply to the digital delivery of services. This outcome is the result of the panel decision in the U.S.-Gambling, which found that GATS mode 1 commitments apply to “all means of delivery, whether by mail, telephone, internet, etc.,” unless otherwise specified in a member’s schedule.⁵⁰ The Appellate Body in China-Audiovisual confirmed that GATS commitments apply to services delivered electronically.⁵¹
- The WTO Understanding on Commitments in Financial Services includes a GATS Annex on Financial Services agreement that Members will not “prevent transfers of information or the processing of financial information, including transfers of data by electronic means.”
- Since 1998, WTO Members have maintained a moratorium on applying customs duties to electronic duties.
- The WTO Trade Facilitation Agreement’s impact on customs efficiency can help digital trade in low-value goods.
- The WTO Information Technology Agreement II reduces tariffs on digital technologies that enable digital trade.
- The importance of effective protection and enforcement of intellectual property rights, as enablers of digital trade underscores the ongoing relevance of the WTO TRIPS Agreement.

The negotiation of new digital trade rules in the WTO remains under consideration. The WTO has an ecommerce working group that has so far failed to make progress on digital issues, due in part to ongoing disagreement over how to deal with the issues left over from the Doha Round.

4. Digital development in trade agreements

Despite the ongoing importance of WTO rules to digital trade, there remain important gaps. Governments have made progress developing new digital trade rules in bilateral and plurilateral/regional trade agreements.

For instance, a number of countries including the U.S., the European Union, and Japan have been including ecommerce chapters in their free trade agreements (FTAs), though most of these were concerned with specific ecommerce opportunities, cooperation on consumer protection, and electronic signatures. The Korea-U.S. FTA went a step further and included a best endeavors commitment to the free flow of data across borders.

The Comprehensive and Progressive Trans-Pacific Partnership Agreement (CPTPP), an 11-nation trade agreement signed in March 2018 includes a comprehensive set of new digital trade rules. For example, the

⁵⁰ Panel Report, *US-Gambling*, para 6.285.

⁵¹ Appellate Body, *China-Publications and Audiovisual Services*, para 364.

CPTPP includes a binding commitment to the free flow of data subject to a GATS Article XIV-style exceptions provision. CPTPP parties agreed to avoid a data localization requirement to avoid requiring companies provide source code as a condition of entering the market, and to permit the use of all devices on the internet. The CPTPP also requires all parties to have privacy protection regulations.⁵² Members of the Pacific Alliance have also adopted a comprehensive set of digital trade commitments modeled on the CPTPP.

Digital trade rules are now being considered in a number of other FTAs, as well as discussed in the Regional Comprehensive Economic Partnership. Digital trade rules were also an important part of the Trade in Services Agreement (TiSA) negotiations and the U.S.-EU TTIP negotiation, though these negotiations are currently on hold.⁵³

Currently, the CPTPP is the most robust set of digital trade rules to which Mexico, Chile and Peru have committed. The NAFTA renegotiation has settled on digital trade rules based on the CPTPP and which go further in some areas including expanding the NAFTA digital trade chapter to include financial services. The participation of many more LAC countries in the ecommerce discussions announced at the Buenos Aires WTO Ministerial meeting last year was a good sign of growing interest in the region to develop digital trade rules. However, participation in the development of new digital trade rules in the region remains uneven. Moreover, the absence of a common regional set of digital rules limits the scope to expand digital trade within LAC.⁵⁴

5. A digital trade policy for Latin America and the Caribbean

To maximize the potential of the internet and data to expand international trade, the LAC region needs a digital trade policy and complementary domestic reforms.

Table 1, also provided in the Executive Summary, shows a list of the key trade reforms that are needed in order to create opportunities for business in LAC to participate in each of the four transformations in international trade caused by the internet and cross-border data flows.

The following highlights the importance of each policy reform for digital trade:

Cross border data flows: The ability to move data globally underpins internet access, access to information, as well as to digital services such as cloud computing and the IoT. International trade commitments to allow cross-border data flows should include exceptions for legitimate restrictions, for example, to protect privacy. Such restrictions should be the least trade restrictive and not be disguised restrictions on international trade.

Ensure non-discriminatory treatment of digital products: countries should refrain from discriminating against digital products.

⁵² See Aaditya Mattoo and Joshua Meltzer, “Global Data Flows and Privacy: the Conflict and its Resolution”, World Bank Policy Research Working Paper No.8431, May 2018

⁵³ *The Regional Comprehensive Economic partnership negotiations involve the ten ASEAN countries plus China, Japan, South Korea, India Australia and New Zealand. The Trade in Service Agreement negotiations 23 parties: Australia, Canada, Chile, Chinese Taipei, Colombia, Costa Rica, European Union (representing its 28 Member States), Hong Kong, Iceland, Israel, Japan, Liechtenstein, Mauritius, Mexico, New Zealand, Norway, Pakistan, Panama, Peru, Republic of Korea, Switzerland, Turkey and the United States.*

⁵⁴ *For more details on the inclusion of digital trade provisions in Latin American and Caribbean preferential trade agreements, and on the potential of electronic commerce in the region in general, see Paolo Giordano (2017), “Integration and Trade Monitor: Beyond the Recovery”, Inter-American Development Bank, November 2017.*

Table 1. Summary of trade reforms

	Cross-border ecommerce	Digital services	Digital services value added in goods exports	Global value chains
Allow cross-border data flows	✓	✓	✓	✓
Ensure non-discrimination	✓	✓	✓	✓
No data localization	✓	✓	✓	
Expand market access for services	✓	✓	✓	✓
Recognize digital signatures	✓	✓	✓	✓
Reduce tariffs	✓	✓	✓	✓
Ensure effective IP protection	✓		✓	✓
Implement a third-party intermediary liability regime	✓	✓		
Join the WTO ITA	✓	✓	✓	✓
Join the WTO TFA	✓		✓	✓
Agree a common <i>de minimis</i> customs duty	✓			
No customs duties on electronic transmissions	✓	✓	✓	✓
Ensure consumer protection	✓	✓		
Enable digital payments	✓	✓		✓
Have an effective competition policy	✓	✓		
Protect privacy	✓	✓	✓	✓
Increase regulatory certainty	✓	✓		
Improve education and skills training	✓	✓	✓	✓
Ensure a stable investment environment	✓	✓		
Expand internet access	✓	✓	✓	✓
Reduce cost of access to devices and cost of internet services	✓	✓	✓	✓
Expand cooperation on cybersecurity	✓	✓	✓	✓

Avoid data localization requirements: Governments have proposed various data localization measures, often for national security or privacy protection reasons. In other cases, data localization seeks to force the development of local data centers. Data localization measures come in several forms. Some require data to be held domestically; others require copies of databases to be held domestically; and, when cross-border data flows are allowed, they are transmitted with caveats. Depending on the measure, data localization can raise the cost of access to digital services (such as cloud computing) and undermine the efficiencies that come with scale.

Expand services commitments: The opportunities to export services online—digitally-deliverable services—can be undermined by regulation in the importing country. This is an area where traditional services barriers are also obstacles to digital trade and their removal should be part of a digital trade policy.

Recognize digital signatures: This has been a common commitment found in early FTA ecommerce chapters. Recognition of digital signatures provides legal certainty regarding completion of contracts online, enhancing opportunities for digital trade.

Reduce tariffs: This is another area where more traditional trade barriers are also barriers to digital trade, particularly when it comes to integration into value chains and the facilitation of international ecommerce. Import duties on inputs in a GVC can become particularly expensive where goods cross borders multiple times. For ecommerce, barriers to goods can make domestic businesses less competitive, especially in the case of SMEs and trade in low-value goods, where such barriers are particularly costly.

Join the WTO Information Technology Agreement: Reduced tariffs for IT products are needed to build digital connectivity and to reduce the cost of internet access. The WTO Information Technology Agreement (ITA), which eliminates tariffs on IT products, was agreed upon in 1996 by 81 WTO members. In 2015, 54 members agreed to eliminate tariffs on an expanded ITA, known as ITA II, which includes more recent digital technologies. LAC countries that are not party to the ITA or the expanded ITA II should consider joining.

Join the WTO Trade Facilitation Agreement (TFA): Efficient customs, which are a core aspect of the TFA, are vital to international ecommerce, particularly with respect to trade in lower-value goods by SMEs. Likewise, participation in GVCs also requires efficient customs procedures. LAC countries not party to the TFA should consider joining.

Agree a common de minimis level for customs duties: A common *de minimis* custom duty—the price at which duties are charged—can facilitate digital trade in low-value goods by SMEs. Consider agreeing a common *de minimis* duty that balances lost revenue with the broader economic gains from international ecommerce.

Ensure a balanced intellectual property regime: Part of the transformation in trade will entail a rise in the importance of IP protection, as trade in goods evolve into a trade in a service/IP rights. In addition, effective IP enforcement in areas such as trademarks and copyright is needed to assure businesses and consumers that the IP in their goods sold online and overseas will be protected.

Implement a third-party intermediary liability regime: An effective and balanced third-party intermediary liability regime can support the content industry and give certainty to startups and other digital players as to when they are liable for hosting or using copyright infringing material and what steps they need to take to avoid penalties.

Ensure consumer protection across borders: Provide consumers with protection for purchases made online to ensure trust in digital transactions. When it comes to international ecommerce, cooperation among

consumer protection agencies is needed to enforce protection of domestic consumers when sellers are located in third countries.

Promote financial inclusion and expand access to digital payment: Providing access to digital payment services such as *PayPal*, *AliPay*, or *Mercado Pago* enable seamless payment online. Access to a bank account and debit or credit cards is often needed to use these services. As a result, efforts to expand financial inclusion also affect digital trade. Digital platforms have developed innovative payment solutions to accommodate consumers who lack bank accounts. For instance, *Mercado Pago* established an escrow service that holds cash from the buyer until delivery of the good had been certified. In addition, using trade agreements to increase access to financial services can increase competition and lead to a greater variety of digital payment options.

Effective enforcement of competition policy: Digital startups are innovating across economic sectors, at times competing against incumbents. Competition policy can create space in concentrated industries for startups to compete effectively. This may require more effective competition policy enforcement and reducing other regulatory barriers to entry.

Ensure protection of personal data: Protecting personal data provided online is essential for maintaining trust in digital trade. Regimes for protecting personal data should maintain high standards of privacy protection, while avoiding unnecessary restrictions on cross-border transfers. This will require cooperation with other countries on privacy standards and mechanisms for enforcement, such as through harmonization or mutual recognition agreements.

Increase regulatory certainty: Using platforms to provide over-the-top digital services allows businesses to compete across economic sectors. This creates two types of regulatory uncertainty that can increase risk and stifle entrepreneurs. One type of uncertainty arises regarding whether or not to apply traditional regulation (e.g. financial regulation designed for brick-and-mortar deposit-taking institutions) to a fintech company operating in the crowdfunding space. Another type of uncertainty arises when telecommunications regulators assert jurisdiction on the grounds that a digital company is operating over the telecoms infrastructure, creating regulatory overlap. Governments should address these uncertainties and streamline regulations for a digital economy and trade environment.

Improve education, skills, and training: Governments should undertake comprehensive assessments of the skills required to grow a digital economy and engage in digital trade. This entails identifying skills gaps and designing policies to address them. Solutions could include regional cooperation amongst government and/or education and skills training institutes located in different countries.

Ensure a stable investment environment: Many digital business models will require investing in the country where they are operating. For instance, Walmart's ecommerce strategy includes building fulfillment warehouses such as in Panama, in order to get closer to the consumers and to minimize the time it takes to complete an online order. International cloud providers may build local data centers. Investment environments that create barriers or conditions of entry, such as providing source code, increases the risk of FDI and are barriers to digital trade.

Expand cybersecurity cooperation: trust in digital trade also requires security of transactions, including from access by criminals and other foreign actors. Ensuring cybersecurity requires government engagement with businesses and the cross-border nature of the threat also demands a regional approach to this challenge.

Conclusion

In order to boost economic growth rates and raise living standards, Latin America and the Caribbean will need to improve productivity. No longer can the region rely on increasing labor inputs and the growth opportunities from the commodity boom.

Taking advantage of the opportunities presented by the global internet and data will be a key channel for boosting productivity and growth. This will require each country in LAC to develop their own digital economy as well as position themselves to take advantage of the digital trade opportunities regionally and globally.

As this report outlines, key technologies that are needed to develop a digital economy include use of big data, cloud computing, and the internet-of-things. Fully integrating these technologies by businesses and government will underpin gains in productivity and competitiveness. Moreover, success here is not just about ICT or professional services, but means digitization of manufacturing, mining, and agriculture.

In turn, this will position LAC business to take advantage of the opportunities from digital trade. As outlined, the global internet and cross-border data flows are transforming international trade in four key ways: increasing use of digital platforms to reach consumers globally; expanding the scope for trade in digital services; use of cross-border data flows to develop new business models and to add value to traditional goods exports; and integration into GVCs. The need for LAC to engage in digital trade is acute. LAC's share of global trade over the past decade has declined and trade within the region as share of total trade trails other major trade zones. Building a digital economy through effective digital trade rules and complementary domestic reforms will help LAC achieve the economic diversification and innovation-driven growth needed to reverse these trends.

Currently, there are no comprehensive global digital trade rules. Instead, such rules are being developed within regional and bilateral free trade agreements. The most prominent of these is the CPTPP, signed in Chile in March this year. However, only Mexico, Chile, and Peru are party to this agreement. The participation of a larger number of LAC countries in the ecommerce discussions announced at the Buenos Aires WTO Ministerial last year is a good sign of renewed interest by governments in the region in shaping digital trade rules. However, given the composition of this ecommerce group and the broader WTO negotiating dynamics, progress here is likely to be slow. In the meantime, there are no common digital rules for LAC which could become a basis for expanding digital trade opportunities regionally.

This report outlines a range of reforms needed in order to develop a digital economy and to take advantage of digital trade opportunities. Many of the recommended reforms are domestic in nature, such as providing consumer protection for online commerce, and having in place appropriate IP protections and competition rules. Others, such as ensuring robust protection of personal data online also require domestic reforms, but to be most effective should include international cooperation on how to protect personal information sent to other countries.⁵⁵ In other areas, the report outlines the range of digital trade rules that are the basis for regulating digital trade.

⁵⁵ Aaditya Mattoo and Joshua P. Meltzer (2018), "International Data Flows and Privacy: The Conflict and Its Resolution", World Bank Policy Research Working Paper 8431, May 2018, <http://documents.worldbank.org/curated/en/751621525705087132/pdf/WPS8431.pdf>